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IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1-9. (Canceled).

10. (Currently Amended) A base station apparatus that performs radio communication with a plurality of mobile station apparatuses concurrently, the base station apparatus comprising:

a plurality of antennas provided in a greater number than the plurality of mobile station apparatuses;

a receiver that receives a plurality of signals from the plurality of mobile station apparatuses via the plurality of antennas;

an estimator that estimates channel estimation values between the plurality of mobile station apparatuses and the plurality of antennas using the plurality of signals;

a converter transformer that performs linear conversion transformation of a plurality of transmission signals using coefficients determined from the channel estimation values estimated in the estimator; and

a transmitter that transmits the plurality of transmission signals subjected to linear conversion transformation to the